

Storm Water Advisory Panel Presentation

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Welcome and Introductions

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Today's Presentation

- Purpose of the advisory panel
- Water quality programs and background
- Define the stormwater program
- Current program activities and effort
- Schedule



Purpose of the Advisory Panel

- Provide vital feedback on stormwater issues
- Represent the West Lafayette Stormwater Program service area
- Supporting community education and outreach initiatives of the stormwater program



Water Quality Programs and Background



Waters of the United States



Water Quality Programs

- Include the City's Sanitary and Stormwater Programs
 - Stem from the National Pollutant Discharge Elimination System (NPDES) Program
 - Includes NPDES permits for Sanitary and Stormwater discharges
 - Permits have similar characteristics with respect to operating, managing and expanding the sewer systems
 - Permitted systems include combined/separate sanitary and separate storm



Purpose of NPDES Program

- Improve quality of our waterways
 - Achieve cleaner, healthier streams and rivers
 - Efforts also beneficial to downstream communities
- Reduce/eliminate Combined Sewer Overflows (CSOs)
- Improve stormwater drainage and water quality
- Comply with state and federal requirements



West Lafayette and NPDES Permits

- The city holds separate distinct permits for discharges from:
 - The sanitary sewer system
 - The stormwater sewer system (MS4 – Municipal Separate Storm Sewer System)



The Two Systems

- Sanitary
 - Nine Minimum Controls for the Combined Sewer System (CSS)
 - Long Term Control Plan (LTCP)
 - Operations and maintenance
 - Capital improvements
- Stormwater (MS4)
 - Six Minimum Control Measures
 - Operations and maintenance
 - Capital improvements



Sanitary System/Program

The Nine Minimum Controls (CSS):

- 1) Proper operation and regular maintenance
- 2) Maximum use of the collection system for storage
- 3) Review and modification of pretreatment requirements to minimize CSO (raw sewage overflow) impacts
- 4) Maximization of flow to the POTW for treatment
- 5) Elimination of CSOs during dry weather



Sanitary System/Program

The Nine Minimum Controls (cont.):

- 6) Control of solid and floatable materials in CSOs
- 7) Pollution prevention programs to reduce contaminants in CSOs
- 8) Public notification of CSO occurrences and impacts
- 9) Monitoring to characterize CSOs and efficacy of CSO controls



Sanitary System/Program

- Services extend beyond city's 11.75 square mile boundary
- More than 7,000 connected users
- Sewer system
 - More than 100 miles of sanitary sewers
 - 15 lift stations



Sanitary System/Program Planned Capital Projects

- New north service area lift station and main extensions
- Soldiers Home lift station improvements
- WWTP capacity expansions
- Sheraton and Fairway Knolls lift station replacements
- Nutrient removal and headworks improvements



Stormwater System/Program

- The City is a Rule 13/MS4 co-permittee
- 327 IAC 15-13 (Rule 13) authorizes general MS4 permit
- Permit meets NPDES Program requirements
- Second permit term (2008-2013)
- Regulates discharges from the separate storm system



Stormwater System/Program

- City is a co-permittee:
 - West Lafayette is co-permittee with Tippecanoe County, Lafayette, Purdue University, Battle Ground, Dayton and Ivy Tech
 - West Lafayette is responsible to fulfill requirements of the Rule 13 (approved Stormwater Quality Management Program)
 - Non-compliance can result in fines (\$2,500-25,000/day)



Stormwater System/Program

- Six Minimum Control Measures
 - 1) Public outreach and education
 - 2) Public participation and involvement
 - 3) Illicit discharge detection and elimination
 - 4) Construction site run-off control
 - 5) Post construction run-off control
 - 6) Municipal operations good housekeeping



Stormwater System/Program

- Compliance reporting
- Operations and maintenance of the system
- Identified capital needs/drainage improvements



Stormwater System/Program

- Extends to the municipal boundaries
- Includes all residents/property owners
- The infrastructure/assets include:
 - More than 25 miles of separate storm sewer pipe
 - 4,330 manholes, catch basins, and inlets



Capital Improvement Needs

- The Island – green infrastructure
- Downtown/Waterfront drainage improvements
- Happy Hollow Park erosion control
- Blackbird Pond stormwater improvements
- Plaza Parks/Cumberland Park drainage improvements
- University Farms drainage improvements
- Celery Bog Nature Center drainage improvements
- Boes Ditch- Amberleigh Outlet
- Minor capital projects



The Stormwater Program



The Stormwater Program

- Meeting NPDES Permit requirements
- Maintaining existing stormwater system
- Completing stormwater system/drainage improvements and upgrades



NPDES Permit Requirements

- Six Minimum Control Measures
 - 1) Public outreach and education
 - 2) Public participation and involvement
 - 3) Illicit discharge detection and elimination
 - 4) Construction site run-off control
 - 5) Post construction run-off control
 - 6) Municipal operations good housekeeping



Associated Regulatory Requirements

- Compliance reporting
- Operations and maintenance of the system
- Identified capital needs/drainage improvements and possible retrofits for water quality



Operations and Maintenance Activities

- Storm sewer repairs
- Catch basin repairs
- Cleaning and inspection of structural Best Management Practices (BMPs)
- Storm sewer cleaning
- Manholes vacuum cleaned
- Sewer televising
- Street sweeping



Capital Improvement Needs

- The Island – Green Infrastructure
- Downtown/Waterfront Drainage Improvements
- Happy Hollow Park Erosion Control
- Blackbird Pond Stormwater Improvements
- Plaza Parks/Cumberland Park Drainage Improvements
- University Farms Drainage Improvements
- Celery Bog Nature Center Drainage Improvements
- Boes Ditch- Amberleigh Outlet
- Minor Capital Projects



Program Boundaries and User Group

- Program Boundaries:
 - Area inside the corporate boundary of West Lafayette
 - Services can be extended by interlocal agreements and /or memorandums of understanding
- User Group:
 - Permit identifies the general population as users
 - Service area includes properties that directly impact, discharge to and/or benefit from the stormwater sewer infrastructure



Stormwater Program Funding

- Currently funded from sanitary sewer fund
 - Stormwater work competes for funding
 - Burden placed on only sanitary users
- City's Goal: Establish a dedicated funding source to meet stormwater program needs



Stormwater Program Funding

- A dedicated stormwater user fee/service charge
 - Obligates money to stormwater services alone
 - Can provide for stormwater capital needs/projects and regulatory compliance
 - Allows for stormwater master planning
 - Assures dedicated revenue source for users of the service area
 - Lessens demand on sanitary service fee



Stormwater Funding Applied

Current funding needs:

- Permit activities/requirements
 - Minimum Control Measures/Reporting
- Operations and maintenance
 - More than 25 miles of separate storm sewer pipe
 - 4,330 manholes, catch basins, and inlets
 - Additional responsibilities in the combined area
- Associated capital project work
 - More than \$500,000 expended in Happy Hollow Park since 2008



Current Program Activities and Effort



Stormwater Funding Effort to Date

- Rate Analysis Considerations
 - Residential users receive one base (user) fee per month and an Equivalent Residential Unit (ERU) has been determined
 - Non-residential users receive fee based on measured impervious surface area divided by the ERU



Rate Analysis Considerations

- Billing unit is an ERU - 3,200 sq. ft.
impervious area
 - City has measured and is updating impervious area on non-residential parcels
 - Residential parcels are assigned the base billing unit – 1 ERU
 - More than 14,000 billing units/ERUs system wide approximately 7,000 parcels (estimated 2009)



Stormwater Funding Effort to Date

- Stormwater Ordinance Considerations
 - Reference state enabling code
 - Include rate and assessment specifications
 - Describe who and how
 - Stormwater definitions
 - Include special billing classes or credit information if any



Additional Considerations

Credit Program

- Will it be too costly?
- What should be included?
 - Quantity and quality
 - Green infrastructure
 - Education

Will program and user fee sunset?

- Capital work can be completed
- Regulatory requirements will not go away
- O & M needs to continue



Current Financial Considerations

- Estimated annual revenue need for stormwater O&M and regulatory effort (Pollution Prevention System Maintenance) exceeds \$300,000 – based on 2011 Annual Financial Management Report (Wastewater Utility)
- Estimated Stormwater Capital Program costs exceed \$13 million – based on 2009 estimates



Current Effort

- Completing capital project plan revisions and updates
- Completing impervious area measurement updates
- Completing user/fee rate analysis
- Ordinance review and preparation
- Continuing outreach and education



Schedule

- Complete program updates and rate analysis
August/September
- Complete outreach and education July
through December 2012
- Ordinance introduction October/November
2012
- Begin billing January 2013



Questions?

